

CLAIMS

1. A polypeptide comprising the amino acid sequence of SEQ ID NO: 1.

2. A polypeptide comprising the amino acid sequence of SEQ ID NO: 1 in which one or more amino acids have been substituted, deleted or added, and having transaldolase activity.

Sub a3 3. A protein comprising an amino acid sequence which is at least 60 % homologous to the amino acid sequence of SEQ ID NO: 1, and having transaldolase activity.

4. A DNA coding for the polypeptide of any one of claims 1 to 3.

5. A DNA comprising the nucleotide sequence of SEQ ID NO: 2.

Sub a4 6. A DNA which hybridizes with the DNA of claim 4 or 5 under stringent conditions, and codes for a polypeptide having transaldolase activity.

7. A recombinant DNA obtainable by ligating the DNA of any one of claims 4 to 6 with a vector.

8. A transformant carrying the recombinant DNA of claim 7.

Sub a5 9. A transformant in which one or more nucleotides have been substituted, deleted or inserted in the nucleotide sequence of the DNA of any one of claims 4 to 6 carried by the transformant of claim 8 or in the nucleotide sequence of a DNA existing upstream the DNA and participating in transcription and translation, and

of which the transaldolase activity is enhanced over that of the transformant not having undergone the substitution, deletion or insertion.

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10. The transformant according to claim 8 or 9, wherein the transformant has an ability to produce an aromatic amino acid or aromatic vitamin.

11. A process for producing an aromatic amino acid or aromatic vitamin, which comprises culturing the transformant of claim 10 in a medium to thereby produce and accumulate in the culture the aromatic amino acid or aromatic vitamin, and recovering the aromatic amino acid or aromatic vitamin from the culture.

Sub as

12. A transformant in which one or more nucleotides have been substituted, deleted or inserted in the nucleotide sequence of the DNA of any one of claims 4 to 6 carried by the transformant of claim 8 or in the nucleotide sequence of a DNA existing upstream the DNA and participating in transcription and translation, and of which the transaldolase activity is lowered below that of the transformant not having undergone the substitution, deletion or insertion, or of which the transaldolase activity is lost.

13. The transformant according to claim 8 or 12, wherein the transformant has an ability to produce a substance selected from L-histidine, riboflavin, nucleic acids and nucleic acid-associated substances.

14. A process for producing a substance selected from

L-histidine, riboflavin, nucleic acids and nucleic acid-associated substances, which comprises culturing the transformant of claim 13 in a medium to thereby produce and accumulate the substance in the culture, and recovering the substance from the culture.

lwa7 15. A process for producing the polypeptide of any one of claims 1 to 3, which comprises culturing the transformant of claim 8 in a medium to thereby produce and accumulate the polypeptide of any one of claims 1 to 3 in the culture, and recovering the polypeptide from the culture.

16. A process for producing a saccharide having the dihydroxyacetone moiety of the ketose transferred into the aldose, which comprises allowing a ketose and an aldose to exist in an aqueous medium to coexist with an enzyme source selected from cells of the transformant of claim 8 or 9, a culture of the transformant or a processed product of the culture, to thereby produce and accumulate the saccharide in the aqueous medium, and recovering the saccharide from the aqueous medium.